

REMARKS

This is in response to the Office Action mailed on December 23, 2003, and the references cited therewith.

Claims 21, 31, 38, 40-42, 46, 51, 54 and 58 are amended, claim 45 is canceled (claims 1-20, 26, 28-30 and 59 were previously canceled), and claims 64-73 are added; as a result, claims 21-25, 27, 31-44, 46-58 and 60-73 are now pending in this application.

The amendments to the claims are to clarify the claims and are not intended to limit the scope of equivalents to which any claim element may be entitled. The amendments to the claims and new claims have support throughout the specification. No new matter has been added as a result. Applicant respectfully requests reconsideration of the above-identified application in view of the amendments above and the remarks that follow.

The amendment to claim 46 is to provide consistent claim language with amended claim 21, from which claim 46 depends.

The amendments to claims 21, 31, 38, 40-42 and 51 clarify that the bran is bleached under a pressure of about 103.4 to 138 kPA (15 to 20 psi) and a temperature in excess of 100 °C for no more than five (5) minutes. Support for these amendments can be found in the specification at page 11.

The amendment to claim 54 clarifies that the catalase and peroxidase enzymatic systems are indigenous to the bran. Support for this amendment can be found in the specification at page 8, line 28.

The amendment to claim 58 clarifies that the bran is bleached in an aqueous alkaline solution and a bleaching agent selected from the group consisting of hydrogen peroxide, ozone and peracetic acid under a pressure of about 103.4 to 138 kPA (15 to 20 psi). Support for these amendments can be found in the specification at pages 3 and 11, and in the original claims.

§103 Rejection of the Claims

Claims 21-25, 27, 31-57

Claims 21-25, 27, 31-57 were rejected under 35 USC § 103(a) as being unpatentable over Devic (U.S. Patent No. 5,219,601).

The Office Action states that Devic ('601) discloses a process of bleaching plant materials and further notes various details of the process including that the bleaching step is carried out at a temperature of from 40 to 100 °C for about 15 minutes to 5 hours. The Office Action notes that Devic does not disclose "the L value, the properties, adding the bran to the type of foods claimed, the mount of bran added to the food product, [and] the particle size." (Applicant is not clear what is being referred to with the phrase "the properties.") The Office Action further notes that the Devic ('601) process is a wet bleaching process, that the bleaching steps are the "same" as claimed and undisclosed elements noted above would have been obvious and that it would have been obvious to add the bleached bran product to any foods when it is desirable to increase the fiber content of the products. Applicant respectfully traverses the characterization of Devic as having the "same" bleaching steps as Applicant's invention.

Applicant also respectfully traverses the single reference rejection under 35 U.S.C. § 103 since not all of the recited elements of the claims are found in Devic ('601). Since all the elements of the claim are not found in the reference, Applicant assumes that the Examiner is taking official notice of the missing elements. Applicant respectfully objects to the taking of official notice with a single reference obviousness rejection and, pursuant to MPEP § 2144.03, Applicant respectfully traverses the assertion of Official Notice and requests that the Examiner cite references in support of this position.

Applicant also respectfully submits that the Office Action has not established the *prima facie* obviousness of the present claims. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. MPEP 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

Furthermore, claims 22-25, 27, 32-37, 39, 43-50 and 52-57 are dependent claims. The additional limitations provided in dependent claims cannot by themselves be rendered obvious

over the cited references if the independent claim from which it depends is determined to be nonobvious.

Devic does not teach or suggest the claimed invention. Devic teaches a process which includes a bleaching step that is carried out at a temperature of from 40 to 100 °C for about 15 minutes to 5 hours.

In contrast, claim 21, as amended, recites a bleached bran product comprising bleached bran derived from a cereal grain, the bleached bran product produced by treating bran with a hydrogen peroxide solution and an aqueous alkaline solution in a wet bleaching process under a pressure of about 103.4 to 138 kPa (15 to 20 psi) and a temperature greater than 100 °C for no more than five (5) minutes, the bleached bran product having a water absorption value higher than native bran and an antioxidant activity at least 15 to 35% higher than native bran, the bleached bran product suitable for admixing with whole wheat flour to produce white whole wheat flour having an L value on the Hunter scale of at least about 82. Claim 31, as amended, recites a whole wheat flour comprising a bleached bran product produced by treating bran derived from a cereal grain with a hydrogen peroxide solution and an aqueous alkaline solution in a wet bleaching process under a pressure of about 103.4 to 138 kPa (15 to 20 psi) and a temperature greater than 100 °C for no more than five (5) minutes, the bleached bran product having a water absorption value higher than native bran and an antioxidant activity at least 15 to 35% higher than native bran, the whole wheat flour having an L value on the Hunter scale of at least about 82 and a dietary fiber content of about 10 to 12%. Claim 38, as amended, recites a bleached bran product comprising bleached bran derived from a cereal grain, the bleached bran product produced by treating bran with a hydrogen peroxide solution and an aqueous alkaline solution in a wet bleaching process under a pressure of about 103.4 to 138 kPa (15 to 20 psi) and a temperature greater than 100 °C for no more than five (5) minutes, the bleached bran product having a water absorption value higher than native bran and an antioxidant activity at least 15 to 35% higher than native bran, the bleached bran product suitable for use as an additive in foods. Claim 36 recites a finished baked good prepared from the whole wheat flour of claim 31. Similarly, claim 40, as amended, recites a refrigerated uncooked or bakeable dough product; claim 41, as amended, recites a ready-to-eat cereal; and claim 42, as amended, recites a cooked cereal dough comprising bleached bran, the bleached bran produced (in claims 40-42) by treating

bran with a hydrogen peroxide solution and an aqueous alkaline solution in a wet bleaching process under a pressure of about 103.4 to 138 kPA (15 to 20 psi) and a temperature greater than 100 °C for no more than five (5) minutes, the bleached bran having an antioxidant activity at least 15 to 35% higher than native bran. Claim 51, as amended, recites a bleached bran product comprising bleached bran derived from a cereal grain, the bleached bran product produced by first treating bran with a chelating agent to produce reduced transition metal content bran, the reduced transition metal content bran further treated with a hydrogen peroxide solution and an aqueous alkaline solution in a wet bleaching process under a pressure of about 103.4 to 138 kPA (15 to 20 psi) and a temperature greater than 100 °C for no more than five (5) minutes, the bleached bran product having a water absorption value higher than native bran and an antioxidant activity at least 15 to 35% higher than native bran.

The reference does not contain each and every element of Applicant's claimed invention. (When evaluating the scope of a claim, every limitation in the claim must be considered. In re Ochiai, 37 USPQ2d 1127 (Fed. Cir.1997).

Applicant respectfully submits that the claims are patentably distinct from the cited references, either alone or in combination. Claims 21-25, 27 and 31-57, each viewed as a whole, are not suggested by the cited references and not obvious under 35 USC §103(a).

Reconsideration and withdrawal of the rejection to claims 21-25, 27 and 31-57 under 35 USC §103(a) is respectfully requested.

Claim 58

Claim 58 was rejected under 35 USC § 103(a) as being unpatentable over Devic as applied to claims 21-25, 27, 31-57 above further in view of Stanley (U.S. Patent No. 4,844,924).

The Office Action states that Stanley discloses a method of bleaching dietary fiber material using conventional oxidative bleaching agents such as peroxides, peracids, chlorites and ozone. The Office Action concludes that it would have been within the skill of one in the art to determine the bleaching agent or combination of bleaching agents to use and that such optimization is within the skill of one in the art. The Office Action further states that the use of a combination of bleaching agents is known in the art as shown by Stanley.

Applicant again respectfully submits that the Office Action has not established the *prima facie* obviousness of the present claims.

Devic does not teach the claimed invention for all the reasons stated above. Stanley does not overcome the deficiencies of the primary reference. Stanley discusses a dietary fiber material that is esterified prior to bleaching.

Additionally, there is simply no suggestion in Devic *as to the desirability* of using a bleaching agent other than hydrogen peroxide or of using a combination of bleaching agents as the Office Action suggests. The mere fact that the prior art may be modified in the manner suggested by the Office Action does not make the modification obvious unless the prior art suggested the desirability of the modification. Motivation to combine the references must come from within the references themselves and cannot be generated by "hindsight or reconstruction." In this instance, there is simply no suggestion or motivation, either in the cited references themselves or in the knowledge generally available to an art worker, to combine the reference teachings as suggested. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir.1988). Applicant requests the Examiner to either provide evidence of such motivation or withdraw this rejection.

Additionally, the Applicant respectfully traverses the assertion that Stanley teaches the use of combinations of oxidative bleaching agents. Rather, it appears that Stanley discusses the use of alternative bleaching agents for oxidative bleaching, although it does discuss the use of a combination of oxidative bleaching (with one agent) and reductive bleaching (See col. 3 line 56 through col. 4, line 3 and Examples). However, even if Stanley does teach a combination of oxidative bleaching agents as the Office Action suggests, Applicant is the first to provide a bleached bran product comprising bran derived from a cereal grain, the bran bleached in a wet bleaching process with an aqueous alkaline solution and a bleaching agent selected from the group consisting of hydrogen peroxide, ozone and peracetic acid under a pressure of about 103.4 to 138 kPa (15 to 20 psi) in the presence of heat to produce the bleached bran product, as recited in claim 58, as amended.

In any case, the suggested combination does not teach each and every element of Applicant's claims.

Claim 58 is in condition for allowance. Reconsideration and withdrawal of this rejection is respectfully requested.

Allowed Claims

Applicant notes with appreciation the allowance of claims 60-63. However, Applicant notes that claim 63 is dependent on claim 21, which currently stands rejected. Applicant respectfully submits that all of the arguments presented herein apply fully to claim 63 and request allowance of all claims, including claims 21 and 63.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 09/663914

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Title: BLEACHED BRAN AND BRAN PRODUCTS AND METHODS OF PREPARATION

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Dkt: 869.027US1

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at 515-233-3865 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 23 day of March, 2004.

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